

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Carbonic Anhydrase VA/CA5A in direct ELISAs and Western blots. In direct ELISAs, approximately 4% cross-reactivity with recombinant human (rh) CA5B is observed and less than 1% cross-reactivity with rhCA2 and rhCA7.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	<i>E. coli</i> -derived recombinant human Carbonic Anhydrase VA/CA5A Ala40-Ser305 Accession # P35218
Conjugate	Alexa Fluor 647 Excitation Wavelength: 650 nm Emission Wavelength: 668 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the Technical Information section on our website.

Western Blot	Optimal dilution of this antibody should be experimentally determined.
Immunohistochemistry	Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

BACKGROUND

Carbonic Anhydrase catalyzes the reversible reaction of $\text{CO}_2 + \text{H}_2\text{O} = \text{HCO}_3^- + \text{H}^+$, which is fundamental to many processes such as respiration, renal tubular acidification and bone resorption (1). Topics in a CA meeting (6th International Conference on the CAs, June 20 - 25, 2003, Slovakia) ranged from the use of CAs as markers for tumor and hypoxia in the clinic, as a nutritional supplement in milk, and as a tool for CO_2 removal and mosquito control in industry. Carbonic anhydrase VA encoded by the CA5A gene is a mitochondrial protein (2, 3). In comparison with another mitochondrial CA (CA5B), CA5A has different tissue distribution and chromosomal location (4, 5). Expression and inhibitor studies of different CAs in the rat pancreatic beta cells indicate that CA5A may be involved in the regulation of insulin secretion (6). CA5A may also participate in the detoxification of ammonia produced in the gastrointestinal tract by providing bicarbonate to carbamyl phosphate synthetase I (7). The amino acid sequence of recombinant human CA5A (residues 40 to 305) is 79%, 77%, and 76% identical to that of canine, bovine, and rat/mouse.

PRODUCT SPECIFIC NOTICES

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